View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Elsevier - Publisher Connector

Available online at www.sciencedirect.com

SciVerse ScienceDirect

Energy Procedia 14 (2012) 451 – 456

Energy Procedia

Conference Title

Tourism Development Restrict Analyses of Ecology Flimsily Section

Lu Ke

School of Management, Mudanjiang Normal University, Mudanjiang 157012, P.R China

Abstract

In order to enhance tourism environment protection in ecology flimsily section, we did a restrict analyses study of tourism development. Based on flimsily environment theory, we found the bad influences of soil, landform, biology and climate from tourism development can worsen the environment flimsily, then considering the sensitivity chain characteristic of fragile environment, we proposed it should follow these restrictive principles, no specific activate principle, no overall touch principle and transition principle, in tourism developing of ecology flimsily section.

© 2011 Published by Elsevier Ltd. Selection and/or peer-review under responsibility of the organizing committee of 2nd International Conference on Advances in Energy Engineering (ICAEE). Open access under CC BY-NC-ND license.

Keywords: ecology flimsily section; tourism development; restrict analyses

1. Introduction

1.1. Definition of ecology flimsily section

The ecology flimsily section, thereof scope definition main base versus frailty ecological environment 'be defined as standard of the ecology flimsily section point region inside afterwards form frailty ecological environment. For the moment inland compare for representative definition have got (by time sort): Lv Chang-he(1995) thought, the environmental form, those homeostasis gender and interference-free feature deficiency, possess overt land retirement characteristic and ecology exacerbation trend, intitule frailty environment[1]; Xue Ji-yu, Luo Chen-ping(1995) thought, frailty environment is the environment cell of sensibility strong, and possess retrograde tendency[2];Liu Yan-hua(1995) thought, frailty environment is a ecosystem whose compose structure instability, reaction sensitivity with interference factor, and easy occur made against artificial utilize change[3]; Zhao Yue-long(1998)thought, while ecological environment degenerate exceed the level of socioeconomic and technology capability in existence and long-term maintain humanity utilize and development for the moment, it can be entitled

1876-6102 © 2011 Published by Elsevier Ltd. Selection and/or peer-review under responsibility of the organizing committee of 2nd International Conference on Advances in Energy Engineering (ICAEE). Open access under CC BY-NC-ND license.
doi:10.1016/j.egypro.2011.12.887

frailty ecological environment[4]; Yao Jian, Ai Nan-shan and Ding Jing(2003) thought, ecological environment frailty strap or ecology frailty strap is a kind of environmental degradation wrought by nature and human activities, is a kind of zone with landscape deterioration, fertility fell and land resources lost[5].

the definition although presence difference, but too possess hereinafter together signification toward frailty ecological environment of taking a wide view upwards formulation： first, frailty ecological environment possess degenerate state environmental distinction; second, frailty ecological environment sensibility is strong, and stability is deficiency; third, it is made against human activities utilize. Wherefore, conform with upwards threefold diagnostic region namely ecological environment flimsily section.

1.2. Genesis of the ecology flimsily section environment frangibility

1.2.1. Natural factor

The natural factor mostly includes four aspects. First is soil and floor constructional material. While soil either exposed to water erode or eolation lost, it is terrible easy occur degenerate, desertification cum desert melt phenomena. Second is relief terrain factor. Different relief, after humanity irrational tourism exploitation activity destroyed vegetation, all occur soil erosion phenomena easy. Third is biotic population structure. When biotic population structure meets with bitch, it forms frailty ecological environment easily. Fourth is climate frailty factor. Mostly point lit, hot, water quantity and variability and matching relation, for instance drought, frigidity and gale deflation etc..

1.2.2. Human factor

After human activities destroyed one environmental factor of ecology chain, the ecosystem loses balance, then forms natural factor which lead to frailty ecological environment, and accelerate ecological environment pejorative developing.

2. Several aspect impacts of tourism exploitation activity aggravating frailty ecological environment evolution

Tourism exploitation activity is human factor of impacting environmental change, it acts on environmental affected layer basically include natural factor formatting frailty ecological environment, so we need careful think and careful act to proceed tourism exploitation at ecology flimsily section.

2.1. Impact on soil and floor constructional material

One side, tourism exploitation behavior changes or destroys the existing condition of soil development, for instance at Mediterranean coast, swamp dry wrought by tourism exploitation create this region ecology evolution ferociousness [6]; large-scale unconditional managing scrap heap made geotexture change and terrene elementary influx and transfer etc.

On the other side, geotexture destroy made by tourism exploitation behavior lead to soil erosion problems. For instance tourism exploitation destroyed vegetation, and create soil and foreshore erode[7];large area lop or graft of terrene vegetation made edaphic water erosion and wind erode, in turn raises promoted frailty ecological environment evolution.

2.2. Impact on relief and terrain

During the exploitation construct of tourism infrastructure and establishment, different kinds of labor construction parted rounded ecologically section. It transferred inherent relief by these artificial processes of construction. for instance Bacon's research displayed the impact on swamp of tourism exploitation, which such as constructing parking point, aerodrome, vacation-land, tender POC, sewage treatment plant, recreation facility etc., made swamp and estuarine destroy or injure [8]; moving mountain to dug lake leads change of dome shape and graded, it created condition of water loss and soil erosion, and made ecological environment worse tend towards frail vicious circle.

2.3. Impact on organic texture

tourism exploitation activity made heap aspect impacts on wildlife, for instance transferring their living environment, artificial providing their distribution structure etc.; in addition there are some more harmfulness consume activities, for instance hunting and round up, poach wildlife, employ as souvenir like ivory and lion claw necklace[9], such impact is very overt.

2.3.1. Impact on vegetable

First of all, extensive vegetation detach from tourism activities will injury plant most direct. Scholar abroad do some research at Switzerland and Sweden, they found disafforestation for ski way made persistent solifluction imperil to around village, its impact even exceed environmental damage[10]. Inland scholar Chui Hai-ting(2001) did research about Taibai mountain country-level natural protection area of Shanxi province, he found building cableway in this natural protection area destroyed slather centennial fir and forest subaltern frutex and herbage pleased shade, for instance the antiquity treasure plant alone leaf grass which only saw at fir forest subaltern area[11].

Secondly, tourist differ behavior work vary impact on plant, tourist trample is the most popular form, and it sometimes create correlated response, for instance influence on semina germinate, lead to physiologic and shape change of growing plant. Scholar Dickson did a research on Spain Taidi National park, he found exotic species seed brought by visitor shod and clothing in no mood can create species fabric change, these no more will be one of the impacts on biosphere from tourism exploitation [12].

2.3.2. Impact on animal

Tourism exploitation activity will destroy a lot of wildlife habitat or shelter. for instance, tourism exploitation activities severe damage gull's habitat, effect their exist and progeny, and lead the quantity sharp cutoff in country-level Bojianghaizi tableland swamp ecology natural protection area of Eerduosi city.

2.4. Impact on climatic factor

2.4.1. Impact on water

Tourism activities effect on water mostly incarnate at earth system water circulation, for instance, building tourism facilities will transfer geotexture first, then transfer overland runoff, effect evaporation of water, thereby impact wholly earth hydrological cycle.

In addition, tourism reception establishment and tourism economic activity will bring sewage frequently and create water pollution. Wu Chang-nian etc.(1998) did a study of Changdang lake tourism beauty spot at Taihu valley upriver, they found the lake water quality has distinctness difference change with pollute factor rising after tourism exploitation. Each term evaluating standard of lake water quality can satisfaction II genera water standard before tourism exploitation, but mostly sampling location overproof after tourism exploitation [13].

2.4.2. Impact on atmospheric

Tourism development mostly made a series of problems such as air pollution, ozone destroy, greenhouse effect and global warming etc. Thereinto air pollution problem mostly came from autocar trafficking, according to Romeril study, on Jersey Island of English Channel ,the number of autocar jumps from up to 250 to exceed 2000 in summer fastigium, so that leads to emission eke, and brings concerned environmental impact [14]; construction establishment in tourism resort such as guesthouse, restaurant etc. expulsion slather exhaust gas, and throng tourist exhalant carbon dioxide, these all lead to atmospheric structure occur change.

3. Conclusions

During tourism exploitation active procedure, external environment force from different kinds of behavior will act on in existence material basis of frailty ecological environment in a different way and proportion. Tourism exploitation behavior belongs to human factor to developing frailty ecological environment, also named acquired disposition, it works often on the natural factor to developing frailty ecological environment, namely congenital factor. The action effect of acquired disposition not only influence frailty ecological environment trend itself, but also past transferring congenital factor actuality to further change frailty ecological environment trend.

Although ecology flimsily regional environment has strong frangibility, it exists reproducibility same time. If tourism exploitation active disturbance dose not in excess of autoregulation capable limit of environmental system, the reproducibility would present dominance, whereas frangibility submit recessiveness, so ecological environment should go with developmental cycle towards ameliorative heading; on the contrary, tourism exploitation activity brings oversize intervention force on environmental impact, and already exceed environment autoregulation ability, it will speedup exacerbation development of terrene constructional material and relief terrain fact etc., then frangibility presents dominance, but reproducibility then get off to recessiveness status. On this occasion, ecological environment 'frangibility should keep on aggravate, even trend into collapse.

So proceeding tourism exploitation at ecology flimsily section must plenitude known the relation first between frangibility and reproducibility of nature ecological environment system, then follow definite principle, confining humanity planlessness and immoderately tourism developmental sabotage on element resource, and give full play to frailty holocoenotic reproducibility but restrain frangibility, finally shield and ameliorate frailty ecological environment and realize its eucyclic sustainable development from acquired disposition and congenital factor. Overall, we should go the length of "two not, one transition" when doing tourism exploitation at ecology flimsily section. “Two no” are 1) no specific activate principle, and 2) no overall touch principle. “One transition” is transition principle.

3.1. No specific activate principle

Frailty ecological environment is one unique environmental system, the relation among interior different kinds of compose factor is very be prone to make change, with a sort of or one agential change, sometimes it will trigger miscellaneous multi- agential chain response, and then bring radical influence on environment monolithic quality [15].

Thus when proceeding tourism exploitation at ecology flimsily section, we should first of all avoid intensity stimulate to some or several factor of environmental system composition from external interference force, exceed change of ecologic threshold, and forming chain reaction leading to more exacerbation development. Some free activate of environmental factor easily lead to its sphere

environment collapse, then spread to miscellaneous constituent under interaction action among intrasystem spheres, finally lead to whole nature ecological environment collapse.

3.2. No overall touch principle

Frailty ecological environment is a system getting off to dynamic variation process. Its structure occurs frequent change, owing to interrelation and interactive intervene from different kinds of society and natural factor, and transfer exchange of substance energy and information. When impact of ambient interference factor exceeds the limit of environment whole ego maintain ability, environment will occur inconvertible transit [15].

Thus it is must to avoid referring whole individual of environmental factor system when proceeding tourism exploitation at ecology flimsily section and bringing environment force into it, if not, it will give integrated environment heavy pressure, and the reproducibility of environment lost existent space. It will certainty transfer ecology flimsily regional existing environment and make actuation on certain aspect environmental factor to do tourism exploitation. it is allowed to make fractional actuation or span environmental disruption, but not voluminous actuation or large-scale environmental disruption, not even comprehensive actuation or integrated environment destroy. In this way it will be carry out that environment can reproduce, environment is able to self-control, and environment can go with benign development.

3.3. Transition principle

3.3.1. Progressives transition of simplex tourism resource development

Proceeding exploitation on some simplex tourism resource at ecology flimsily section, the higher resource utilization degree will easily lead to more intensity stimulation of correlation environmental factor, and transcend bearing restriction of environment frangibility, then make environment collapse. Thus it is necessary to developing simplex tourism resource with lamination degree, increase exploitation degree by degrees, and prevent brief period stimulation of some environmental limit factor to influence failure-free operation of environmental system.

What is requiring attention is the condition deciding whether early gentleness exploitation transiting to later depth exploitation is environmental change trend. If it is realized in early development process that frailty ecological environment reproducibility presents dominance, and environment develops to restore and ameliorative heading, it is allowed to transit to upper depth development phase of development of tourist resource. On the contrary, we must stop more exploitation, sought currently exploitation problem and solve it. If necessary we even should cease wholeness ongoing exploitation activity.

Furthermore, there are several aspect need notice at development process hereinafter. First, we should decrease environmental disruption, labor construction, and reception establishment as far as possible. Second, we should as far as possible make use of local material, nature degradative stuff, and decrease importation of environment substance into frailty ecological environment in the late more development process. Third, standing to adjust measures to local conditions principle to proceed travel way reconnaissance, plan labor establishment reconnaissance, avoiding ecology sensitizing range and decreasing environmental disruption quantity as far as possible.

3.3.2. Step transition of regional tourism development

First of all, we should do scientifically layout of regional tourism exploitation at ecology flimsily section with hour or space dimension. for instance, adopting progression mode to divide unit operation into near development area, metaphase development area, and forward development area based on

exploitation target area score; or proceeding interim exploitation based on tourism resource exploitability. In this way it can not only avoid touching possession environmental limit factor by a run, but also prevent environment overall exacerbation, furthermore, it can optimize deploy limited wound piece, emphases extend predominance tourism resource into as well.

In other word such mode is "point to strung, tape to surface". It is primarily foothold exploitation and shaft type exploitation in near exploitation. For detail first selecting precedence developmental tourism resource at exploitation target area and forming shaft type distribution, and then developing some tourism line, these can ensure more resistance time of Visitor and more economic benefit. In future it will develop to network exploitation to advance resource utilization rate.

4. Discussions

As the environmental sensitivity and instability of ecology flimsily section, it is far from plenty that carrying out tourism development process just relies on restriction of environment action of force. We should do more to decrease destroy but increase construct in development plan, advocate better operating management to calibration control trafficking, and guide Visitor behavior to protect environment bearing capacity.

References

[1]Lv Changhe, The Characteristic, Distinguish and Sort of Fragile Environment[A], Beijing technology press, 1995,25-31(Ch).

[2]Xue Jiyu, Study on Evaluate Method of Fragile Environment[A], Beijing technology press, 1995,19-24(Ch).

[3]Liu Yanhua, The Type and Index of Chinese Fragile Environment[A], Beijing technology press, 1995,8-17(Ch).

[4]Zhao Yuelong, Zhang Lingjuan, Study on Method of Quantitative Assessment of Fragile Environment[J], SCIENTIA GEOGRAPHICA SINICA, 1998,18(1), P73-79(Ch).

[5]Yao Jian, Ai Nanshan, Ding Jin, Progress in the Studies of Eco-environmental Fragility and Assessment in China[J], Journal of Lanzhou University(Natural Sciences), 2003,39(3), P77-80(Ch).

[6]Matinez Taberner A. Moya G•Ramon G.et al, The Albufera of Majorca Alearci Islands[J].Amboi.1990(19), P21-27.

[7]Farrell B H, Cooperative tourism and the coastal zone[J], Coastal Zone Management Journal.1986(14), P113-130.

[8]Bacon P R, Use of wetlands for tourism in the insular Caribbean[J], Annals of Tourism Research,1987(14), P104-117.

[9]Zhang Kunmin, Environmental Protection in China[J], JOURNAL OF NAIJING UNIVERSITY, 1994,6(3), P199-206(Ch).

[10]Simons P, Apress ski 1e deluge[J],New Scientist.1988,14(1),P49-52.

[11]Cui Haiting, Landscape Pollution: A Problem Need to be Solved Urgently[J], Chinese Journal of Ecology, 2001,20(3), P60-62(Ch).

[12]Dickson J h.Rodriguez J C.Machado A, Invading plants at high altitudes on Tenerife especially in the Teide National Park[J], Botanical Journal of the I.innean Society,1987,95,P155-179.

[13]Wu Changnian, Zhou Tingxu, Wang Qingeng, Overview on the Environmental Impacts of Tourism[J], JOURNAL OF NAIJING UNIVERSITY, 1998,34(6),P756-762(Ch).

[14]Romeril M, Tourism and conservation in the Channel Islands[J], Tourism Management, 1985(1),P43-50.

[15]Zhao YueLong, The Type and Improve on Fragile Environment in China[M], China Environment Science Press, 1999,2-60(Ch).